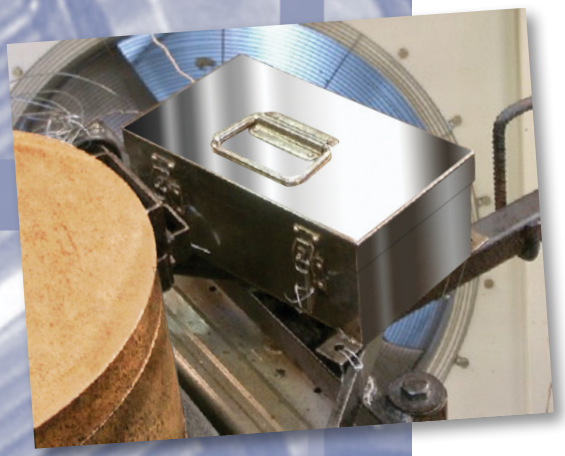
DATAPAQ®

A Fluke Company

RotoPaq

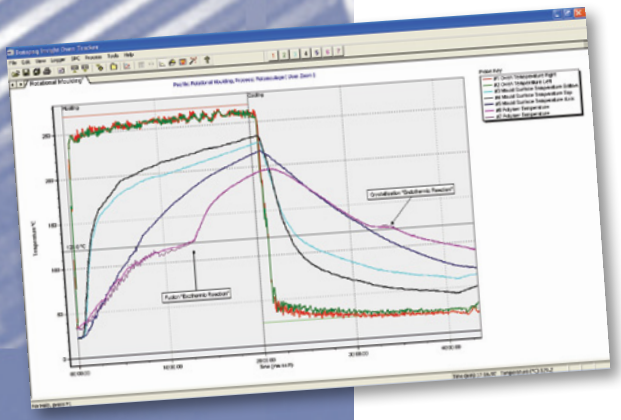
the Rotomolding temperature profile solution



The Datapaq® RotoPaq system is a purpose-built temperature monitoring system designed for use in Rotomolding applications used in the manufacture of domestic and commercial plastic products.

Using the Datapaq RotoPaq system temperature measurement can be made throughout the heating and cooling cycle of the Rotomolding process. Data can be collected directly from inside the oven, mold surface or even internally within the mold. The temperature profile information gathered provides invaluable information to the phase transitions of the polymer on both heating and cooling. Such information permits the optimization and control of the process and guarantees both the quality of the end product and the efficiency of the manufacturing process.

Complete with data logger, thermal barrier and thermocouples, the system is attached to the rotating mold assembly collecting data safely through the continuous heating and cooling cycles. The temperature data recorded by the logger is transmitted from the process using radio telemetry (RF) so you can see in real time on the computer exactly what is happening in the mold. As well as being transmitted, data is stored in the memory of the data logger as a back-up which can be downloaded post process.



SYSTEM FEATURES

- Data logger accuracy of ±0.3°C (±0.5°F)
- Up to 10 measurement channels enables you to profile the whole process comprehensively (oven, mold surface and interior)
- Lightweight and compact to easily and safely fit into the mold
- Thermal protection to allow continuous operation over the working day (up to 14 hours)
- Live data review and analysis via RF telemetry link
- Data back-up in logger memory
- Barrier options for use in water shower cooling

SYSTEM BENEFITS

- Improve the quality of rotational mold plastic parts by monitoring the phase transitions
  - *No warping*
  - *No pinholes/bubbles*
  - *No discoloration*
  - *Impact resistance*
- Optimize process parameters and cycle times
  - *No product release problems*
- Reduce manufacturing costs
- Provide quality control certification for customers or legislation
- Compensate for changes in environmental conditions
- Validate new materials and processes
- Implement and validate process changes live during production

TECHNICAL SPECIFICATIONS

DATA LOGGER

Type	Tpaq21
Channels	10 Type K
Measuring Range	-100°C to 1370°C (-148°F to 2498°F)
Accuracy	±0.3°C (±0.5°F)
Resolution	0.1°C (0.2°F)
Sampling	No telemetry – 0.1 sec to 50 mins RF telemetry – 2 secs to 50 mins
Memory	130,000 datapoints
Maximum Operating Temperature	70°C (158°F)
Battery	NiMH rechargeable
Battery Life	No telemetry – 340 hours RF telemetry – 40 hours (3s sample interval)

TELEMETRY KIT

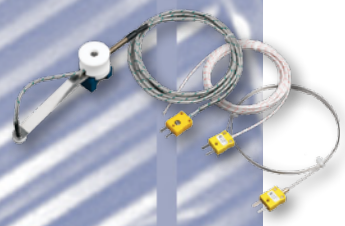
Transmitter	TM21 Transmitter TX4101 fitted inside data logger		
Frequency	Euro/China	434.065-434.740 MHz	
	USA/Canada	463.525-464.975 MHz	
	Japan	429.275-429.725 MHz	
Antenna	TX2040 (standard) TX2091 (flexible waterproof) connected to data logger		
Receiver	TM21 Primary Receiver (Euro RX4200, USA RX4100, ROW RX4001)		
Approvals	EU CEPT/ERC/70-03E	USA-FCC CFR47 Part 90	Canada RSS-119
	Japan-ARIB STD-T6	China-CMIT-2010DJ5117	Taiwan NCC-LP0002

THERMAL BARRIER

Barrier Model	**TB5000-RP**	**TB5016-RP (Waterproof)**	**TB5811 (Waterproof)**
Weight (inc. heatsink)	6.2 kg (13.7 lbs)	8.3 kg (18.3 lbs)	7.8 kg (17.2 lbs)
Dimensions (H x W x L)	130 mm x 220 mm x 292 mm (5.1 in x 8.6 in x 11.4 in)	120 mm x 206 mm x 401 mm (4.7 in x 8.1 in x 15.7 in)	100 mm x 146 mm x 303 mm (3.9 in x 5.7 in x 11.9 in)
Suitable Logger	Tpaq21 (0.6 kg /1.3 lb)	Tpaq21 (0.6 kg /1.3 lb)	Tpaq21 (0.6 kg / 1.3 lb)
Suitable Heatsink	2 x TB1001 (2 x 1.0 kg / 2.2 lbs)	2 x TB1001 (2 x 1.0 kg / 2.2 lbs)	2 x TB1001 (2 x 1.0 kg / 2.2 lbs)
Barrier Mount	Brackets (width 220 mm / 8.6 in) or custom	Brackets (width 220 mm / 8.6 in) or custom	

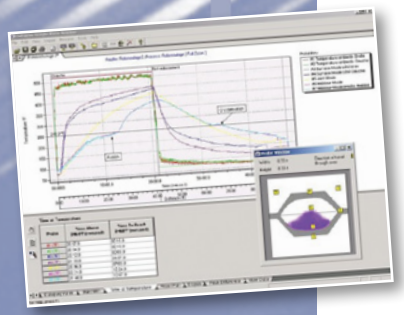
Temperature	100°C (212°F)	150°C (302°F)	200°C (392°F)	250°C (482°F)	300°C (572°F)
TB5000-RP Duration (hrs)*	14.5	6.5	4.5	3.5	3.0
TB5016-RP Duration (hrs)*	17.0	8.0	5.0	4.0	3.0

** Protection quoted at consistent environmental atmosphere*



THERMOCOUPLES

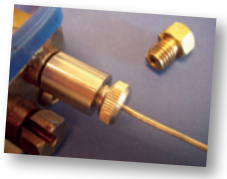
Mineral insulated with optional guide clips to allow probe to be inserted into the mold core and secured using an external mold vent chimney. Magnetic surface probes can be used to monitor the surface temperature of a ferrous mold and patch or exposed junction probes for aluminium molds.



INSIGHT™ ANALYSIS SOFTWARE FEATURES

Data review analysis and reporting for standard and RF operation

- Full logger reset functionality (sample interval, start trigger)
- Auto scrolling of profile graph as data is received and plotted
- Full flexibility of zoom functions and profile selection
- Real-time data analysis: Maximum Temperature, Ramp Rates/raw data, Time at Temperature and Peak Difference
- Alarm set-up; Live data QA checks
- Real-time system status: Battery, memory, logger temperature
- Auto saving of data to PC as run completed
- Comprehensive hardcopy reporting options or data export
- Local languages available



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